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Groundwater Quality Protection Program

RIDGWAY
FACILITY NUMBER 0590300
WELL SITE SURVEY
REPORT

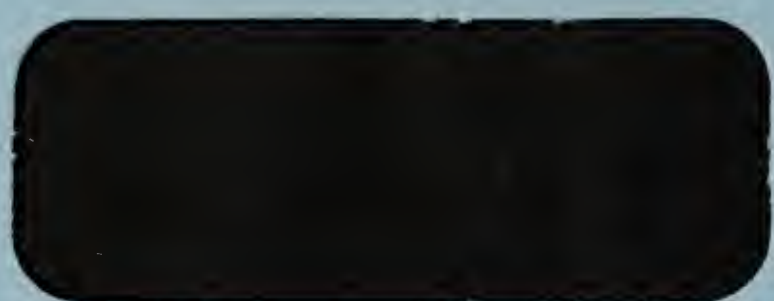
Division of Public Water Supplies



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IEPA/PWS/91-50

GROUNDWATER QUALITY PROTECTION PROGRAM:

RIDGWAY
FACILITY NUMBER 0590300
WELL SITE SURVEY
REPORT

Prepared by:

Division of Public Water Supplies

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INTRODUCTION

This report has been prepared by the Agency pursuant to Section 17.1 of the Illinois Environmental Protection Act. The report summarizes information about your facility and samples collected and analyzed from your well(s). The well site survey provides an inventory of the area around the well(s) to help increase your awareness of potential hazards to groundwater utilized by your facility. This information and technical data will assist you in developing and implementing local groundwater protection measures authorized by the Act.

FACILITY DESCRIPTION AND GEOLOGIC PROFILE OF WELL SITES

The Village of Ridgway obtains its water from three drift wells. Wells #1 and #3 are the main supply wells with Well #2 primarily used to supply an agricultural - chemical facility. The wells provide an average of 113,000 gallons per day to 542 services. See Table I for a description of each well. The surficial geologic susceptibility rating for all three wells is A2. The aquifer is overlain by sandy sediments with a moderate to high permeability. Permeability is a measure of the ability of a soil or sediment to transmit fluids. A complete description and geologic profile is found in the Facility Wells Report (Appendix C).

Table I

	Minimum Setback (ft.)	Maximum Setback (ft.)	Status	Capacity (gpm) (MGD)	Specific Capacity (gpm/ft.)	Treatment	Aquifer	Well Depth (ft.)	Well Logs Available
Well #1 (70410)	400	No	A	200 0.288		Aer., Chl., Filt, Fl., Sftng.	Sand and Gravel	85	
Well #2 (70411)	400	No	A	50 0.072		None	Same	85	
Well #3 (70412)	400	No	A	400 0.576		Aer., Chl., Filt., Fl., Sftng.	Same	101	

A - Active

GROUNDWATER SAMPLING AND MONITORING HISTORY

Ridgway Wells #1 and #3 were sampled on July 7, 1987 as part of a Statewide Groundwater Monitoring Program. The samples were analyzed for inorganic chemicals (IOC) and volatile organic/aromatic compounds (VOC/VOA). The wells were additionally sampled for synthetic organic pesticides (SOC) on July 19, 1988.

VOC/VOA analyses did not detect quantifiable levels of any organic compounds. SOC analyses did not detect any pesticides/herbicides. IOC analyses indicate that both wells have slightly elevated arsenic levels, ranging from 55 to 83 parts per billion. This is above the Maximum Allowable Concentration (MAC) for arsenic, set at 50 ppb in drinking water, but below the General Use Guideline for raw water of 1,000 ppb. More information on arsenic may be found in Appendix E, complete analyses are in Appendix D.

WELL SITE SURVEY METHODS AND PROCEDURES

The detailed well site survey consists of an aerial photographic map and inventory sheets (Appendix B), that relate information about potential sources, routes, and possible problem sites to your water supply wells. The location of potential sources, routes, possible problem sites, water wells minimum setback zones and the 1,000 foot survey area are all displayed on the aerial photographic map.

The first page of each survey consists of a summary description and geologic profile for each well. The second and following pages of the survey inventory units within and bordering a 1,000 foot radius of the wellhead. A unit is defined as any device, mechanism, equipment, or area (exclusive of land utilized only for agricultural production). The Agency 5-digit well number is associated with a unit or map code, and then classified. The classification codes relate to definitions of potential contamination sources and routes as defined in the Illinois Groundwater Protection Act (see Groundwater Primer pages 18-19). The distance and direction of the unit from the wellhead is also indicated.

Survey Results and Findings

The Ridgway well site survey was conducted on November 28, 1990 by Wade Boring from the Agency's Springfield office. The following describes the results and findings for the Ridgway public water wells.

Ridgway Well #1 (IEPA #70410)

The survey area is mostly urban. The area is a mixture of residential and commercial. There is one potential secondary source and six possible problem sites within 1,500 feet of Well #1. The potential secondary source is Tri-County Fertilizer (map code 7) 230 ft. SW. The possible problem sites are an abandoned gas station (map code 4) 870 ft. NW, Veach Oil (map code 5) 550 ft. NNW, Wills 76 (map code 6) 470 ft. N and FS (map code 8) 450 ft. SSE, Durham Hardwoods (map code 3) 1,050 ft. W and bulk fuel (map code 10) 1,050 ft. SE.

Ridgway Well #2 (IEPA #70411)

The survey area is mostly urban. The area is a mixture of residential and commercial. There is one potential secondary source and six possible problem sites within 1,500 feet of Well #2. The potential secondary source is Tri-County Fertilizer (map code 7) 220 ft. SW. The possible problem sites are Durham Hardwoods (map code 3) 1,050 ft. W, an abandoned gas station (map code 4) 880 ft. NW, Veach Oil (map code 5) 560 ft. NNW, Wills 76 (map code 6) 480 ft. N., FS (map code 8) 440 ft. SSE and bulk fuel (map code 10) 1,040 ft. SE.

Ridgway Well #3 (IEPA #70412)

The survey area is mostly urban. The area is a mixture of residential and commercial. There are two potential secondary sources and four possible problem sites within 1,500 feet of Well #3. The potential secondary sources are Veach Oil (map code 5) 280 ft. SW and Will 76 (map code 6) 290 ft. S. The possible problem sites are Durham Hardwoods (map code 3) 1,150 ft. WSW, an abandoned gas station (map code 4) 700 ft. WSW, Tri-County Fertilizer (map code 7) 980 ft. SSW and FS (map code 8) 1,200 ft. SSE.

SUMMARY

The well site survey conducted indicates that there are potential sources/sites that could pose a hazard to groundwater utilized by the Ridgway public water wells.

- . Five sites with below ground fuel storage; an abandoned gas station, Veach Oil, Wills 76, Tri-County Fertilizer and FS.
- . Two sites with above ground storage of fertilizers and pesticides; FS and Tri-County Fertilizer.
- . One bulk fuel storage area.
- . One woodworking company.

The Illinois Environmental Protection Act provides minimum protection zones for your wells. These minimum protection zones are regulated by the IEPA. The Act also authorizes county and municipal officials the opportunity to provide maximum protection zones up to 1,000 feet. The responsibility for the controls would then be assumed by local officials through adoption of a maximum setback zone ordinance.

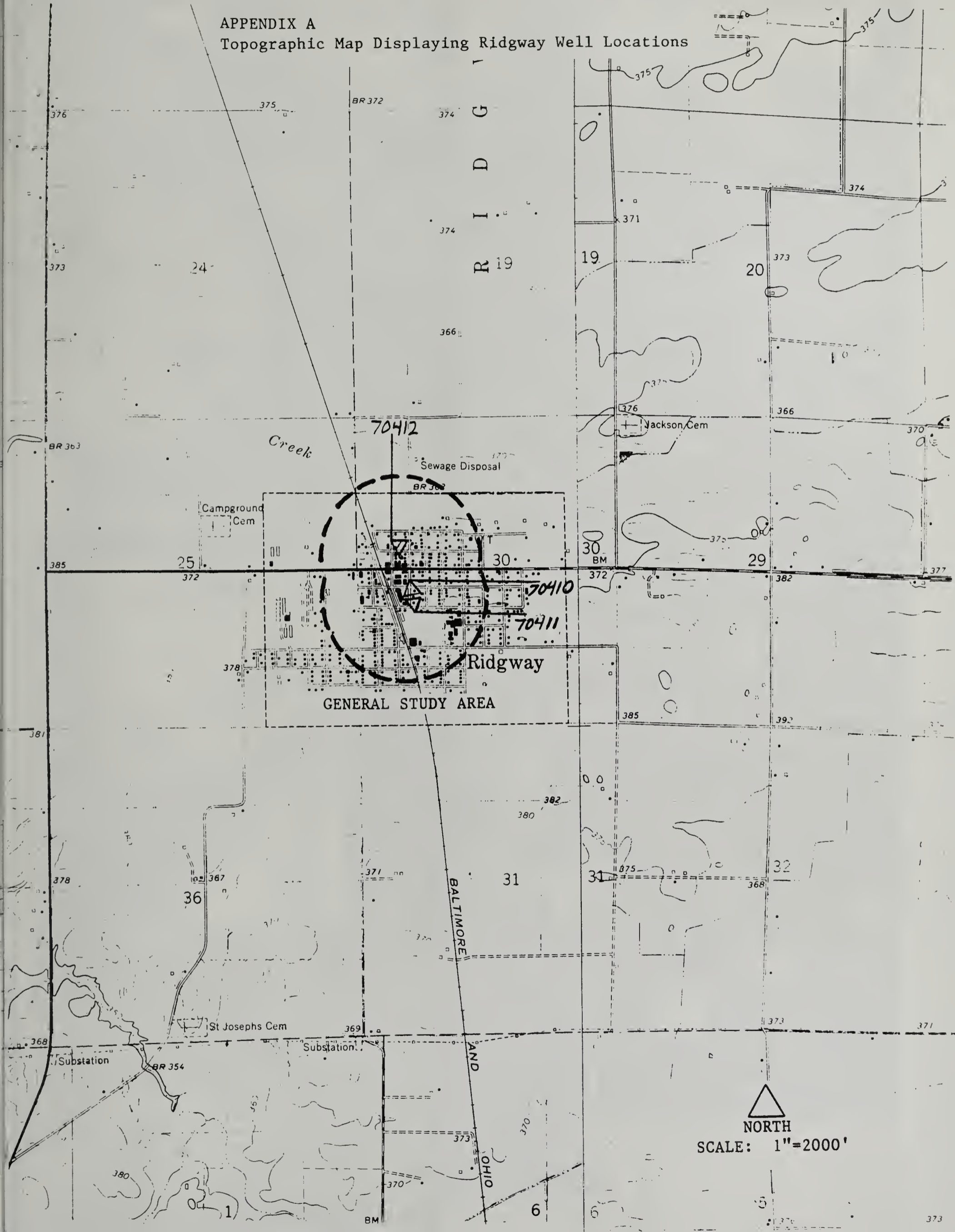
Maximum setback zones prohibit the siting of new potential primary sources of groundwater contamination up to a distance of 1,000 feet from the well head. In addition, a maximum setback zone could expand the regulatory coverage of certain new and existing activities. These controls could be implemented upon the adoption of proposed regulations by the Illinois Pollution Control Board.

RECOMMENDATIONS

The Agency strongly urges Ridgway to consider establishing maximum setback zones for its wells. The Agency has prepared a "Maximum Setback Zone Workbook" which provides detailed case studies of how to establish a maximum setback zone. Technical assistance is available from the Agency and the Illinois State Water Survey.

TECHNICAL APPENDICES

APPENDIX A
Topographic Map Displaying Ridgway Well Locations



APPENDIX B
Aerial Photographic Map



70412 70410 70411

RIDGWAY
0590300
1" = 400'



1

2

3

4

5

6

7

8

9

10

CRAWFORD ST

EDWARD ST

MAIN ST

APPENDIX: B1 WELL SITE SURVEY SUMMARY DESCRIPTION AND GEOLOGIC PROFILE
Ridgway Well #1 (IEPA #70410)

SURVEYOR: W. Boring
SURVEY DATE: 11/28/90

ADDRESS:
Village Hall
Box 827
Ridgway, Illinois 62979

AGENCY WELL NO: 70410
WELL NAME & DESC.: Well #1
TREATMENT APPLICATION POINT: 01
FACILITY NO. & NAME: 0590300 - Ridgway
FAC. PHONE NUMBER: 618/272-8751

LOCATION:
TWP, RNG, SECTION, 10 ACRE PLOT:
8S, 9E, 30, 7D
DISTANCE FROM CORNER: 2150 N, 700 E
QUAD SHEET CODE & NAME: 261D - Ridgway
MIN. SETBACK: 400 ft.

MAX. SETBACK:
SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: A2 - moderate to high permeability
sand and gravel sediments

AGE OF WELL (DATE WELL CONSTRUCTION): 1938
WELL DEPTH: 85 ft.

AQUIFER CODE: 0101 - sand and gravel aquifer

MULTIPLE AQUIFER (Y, N): No

SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: Survey area is mostly urban. The
area is a mixture of residential and commercial.

INTERVIEW(S) NAME-ADDRESS-AFFILIATION-TELEPHONE NO.:

Charles Dennison, Box 517, Ridgway, Illinois 62979
Water Plant Operator 618/272-4634

APPENDIX: B1 INVENTORY AND SYNOPSIS OF UNITS Ridgway Well #1 (IEPA #70410)

Classification (CLASSF*) KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = POTENTIAL ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 70410-01-

NAME & ADDRESS OF UNIT OWNER: Unknown, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Abandoned building with below ground fuel storage

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1540 ft. NW

WELL NO. - MAP CODE - CLASSF*: 70410-02-

NAME & ADDRESS OF UNIT OWNER: Ridgway Seed Company, Main Street, Ridgway, IL 62979, 618/272-3741

DESCRIPTION AND COMMENTS: Grain storage, APC #059030AAK

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 970 ft. NW

WELL NO. - MAP CODE - CLASSF*: 70410-03-

NAME & ADDRESS OF UNIT OWNER: J.R. Durham Hardwoods, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Woodworking shop

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1050 ft. W

WELL NO. - MAP CODE - CLASSF*: 70410-04-OX

NAME & ADDRESS OF UNIT OWNER: Unknown, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Abandoned gas station

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 870 ft. NW

WELL NO. - MAP CODE - CLASSF*: 70410-05-OS

NAME & ADDRESS OF UNIT OWNER: Veach Oil Company, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Service station with below ground fuel storage assumed greater than 500 gallons, ISFM #7-023232

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 550 ft. NNW

APPENDIX: B1 INVENTORY AND SYNOPSIS OF UNITS Ridgway Well #1 (IEPA #70410)

Classification (CLASSF*) KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = POTENTIAL ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 70410-06-OS

NAME & ADDRESS OF UNIT OWNER: Wills 76, Main and Crawford, Ridgway, IL 62979, 618/272-4621

DESCRIPTION AND COMMENTS: Service station with below ground fuel storage assumed greater than 500 gallons, ISFM #7-014635

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 470 ft. N

WELL NO. - MAP CODE - CLASSF*: 70410-07-PS

NAME & ADDRESS OF UNIT OWNER: Tri-County Fertilizer, Inc., Ridgway, IL 62979, 618/273-3004

DESCRIPTION AND COMMENTS: Above ground storage of fertilizer, below ground fuel storage, ISFM #7-002580

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 230 ft. SW

WELL NO. - MAP CODE - CLASSF*: 70410-08-OS

NAME & ADDRESS OF UNIT OWNER: FS, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Above ground storage of fertilizer, below ground fuel storage

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 450 ft. SSE

WELL NO. - MAP CODE - CLASSF*: 70410-09

NAME & ADDRESS OF UNIT OWNER: Bunge Corp., Ridgway, IL 62979, 618/272-4791

DESCRIPTION AND COMMENTS: Grain storage, APC #059030AAF

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 700 ft. SSW

WELL NO. - MAP CODE - CLASSF*: 70410-10

NAME & ADDRESS OF UNIT OWNER: Unknown, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Above ground bulk fuel storage

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1050 ft. SE

APPENDIX: B2 WELL SITE SURVEY SUMMARY DESCRIPTION AND GEOLOGIC PROFILE
Ridgway Well #2 (IEPA #70411)

SURVEYOR: W. Boring
SURVEY DATE: 11/28/90

ADDRESS:
Village Hall
Box 827
Ridgway, Illinois 62979

AGENCY WELL NO: 70411
WELL NAME & DESC.: Well #2
TREATMENT APPLICATION POINT: 01
FACILITY NO. & NAME: 0590300 - Ridgway
FAC. PHONE NUMBER: 618/272-8751

LOCATION:

TWP, RNG, SECTION, 10 ACRE PLOT:
8S, 9E, 30, 7D
DISTANCE FROM CORNER: 2140 N, 700 E
QUAD SHEET CODE & NAME: 261D - Ridgway
MIN. SETBACK: 400 ft.

MAX. SETBACK:

SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: A2 - moderate to high permeability
sand and gravel sediments

AGE OF WELL (DATE WELL CONSTRUCTION): 1953

WELL DEPTH: 85 ft.

AQUIFER CODE: 0101 - sand and gravel aquifer

MULTIPLE AQUIFER (Y, N): No

SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: Survey area is mostly urban. The
area is a mixture of residential and commercial.

INTERVIEW(S) NAME-ADDRESS-AFFILIATION-TELEPHONE NO.:

Charles Dennison, Box 517, Ridgway, Illinois 62979
Water Plant Operator 618/272-4634

APPENDIX: B2 INVENTORY AND SYNOPSIS OF UNITS Ridgway Well #2 (IEPA #70411)

Classification (CLASSF*) KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = POTENTIAL ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 70411-01-

NAME & ADDRESS OF UNIT OWNER: Unknown, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Abandoned building with below ground fuel storage

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1550 ft. NW

WELL NO. - MAP CODE - CLASSF*: 70411-02-

NAME & ADDRESS OF UNIT OWNER: Ridgway Seed Company, Main Street, Ridgway, IL 62979, 618/272-3741

DESCRIPTION AND COMMENTS: Grain storage, APC #059030AAK

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 980 ft. NW

WELL NO. - MAP CODE - CLASSF*: 70411-03-

NAME & ADDRESS OF UNIT OWNER: J.R. Durham Hardwoods, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Woodworking shop

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1050 ft. W

WELL NO. - MAP CODE - CLASSF*: 70411-04-OX

NAME & ADDRESS OF UNIT OWNER: Unknown, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Abandoned gas station

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 880 ft. NW

WELL NO. - MAP CODE - CLASSF*: 70411-05-OS

NAME & ADDRESS OF UNIT OWNER: Veach Oil Company, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Service station with below ground fuel storage assumed greater than 500 gallons, ISFM #7-023232

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 560 ft. NNW

APPENDIX: B2 INVENTORY AND SYNOPSIS OF UNITS Ridgway Well #2 (IEPA #70411)

Classification (CLASSF*) KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = POTENTIAL ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 70411-06-OS

NAME & ADDRESS OF UNIT OWNER: Wills 76, Main and Crawford, Ridgway, IL 62979, 618/272-4621

DESCRIPTION AND COMMENTS: Service station with below ground fuel storage assumed greater than 500 gallons, ISFM #7-014635

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 480 ft. N

WELL NO. - MAP CODE - CLASSF*: 70411-07-PS

NAME & ADDRESS OF UNIT OWNER: Tri-County Fertilizer, Inc., Ridgway, IL 62979, 618/273-3004

DESCRIPTION AND COMMENTS: Above ground storage of fertilizer, below ground fuel storage, ISFM #7-002580

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 220 ft. SW

WELL NO. - MAP CODE - CLASSF*: 70411-08-OS

NAME & ADDRESS OF UNIT OWNER: FS, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Above ground storage of fertilizer, below ground fuel storage

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 440 ft. SSE

WELL NO. - MAP CODE - CLASSF*: 70411-09

NAME & ADDRESS OF UNIT OWNER: Bunge Corp., Ridgway, IL 62979, 618/272-4791

DESCRIPTION AND COMMENTS: Grain storage, APC #059030AAF

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 690 ft. SSW

WELL NO. - MAP CODE - CLASSF*: 70411-10

NAME & ADDRESS OF UNIT OWNER: Unknown, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Above ground bulk fuel storage

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1040 ft. SE

APPENDIX: B3 WELL SITE SURVEY SUMMARY DESCRIPTION AND GEOLOGIC PROFILE
Ridgway Well #3 (IEPA #70412)

SURVEYOR: W. Boring
SURVEY DATE: 11/28/90

ADDRESS:
Village Hall
Box 827
Ridgway, Illinois 62979

AGENCY WELL NO: 70412
WELL NAME & DESC.: Well #3
TREATMENT APPLICATION POINT: 01
FACILITY NO. & NAME: 0590300 - Ridgway
FAC. PHONE NUMBER: 618/272-8751

LOCATION:

TWP, RNG, SECTION, 10 ACRE PLOT:
8S, 9E, 30, 7D

DISTANCE FROM CORNER: 2910 N, 700 E
QUAD SHEET CODE & NAME: 261D - Ridgway
MIN. SETBACK: 400 ft.

MAX. SETBACK:

SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: A2 - moderate to high permeability
sand and gravel sediments

AGE OF WELL (DATE WELL CONSTRUCTION): 1977

WELL DEPTH: 101 ft.

AQUIFER CODE: 0101 - sand and gravel aquifer

MULTIPLE AQUIFER (Y, N): No

SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: Survey area is mostly urban. The
area is a mixture of residential and commercial.

INTERVIEW(S) NAME-ADDRESS-AFFILIATION-TELEPHONE NO.:

Charles Dennison, Box 517, Ridgway, Illinois 62979
Water Plant Operator 618/272-4634

APPENDIX: B3 INVENTORY AND SYNOPSIS OF UNITS Ridgway Well #3 (IEPA #70412)

Classification (CLASSF*) KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = POTENTIAL ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 70412-01-

NAME & ADDRESS OF UNIT OWNER: Unknown, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Abandoned building with below ground fuel storage

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1540 ft. WSW

WELL NO. - MAP CODE - CLASSF*: 70412-02-

NAME & ADDRESS OF UNIT OWNER: Ridgway Seed Company, Main Street, Ridgway, IL 62979, 618/272-3741

DESCRIPTION AND COMMENTS: Grain storage, APC #059030AAK

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 620 ft. W

WELL NO. - MAP CODE - CLASSF*: 70412-03-

NAME & ADDRESS OF UNIT OWNER: J.R. Durham Hardwoods, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Woodworking shop

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1150 ft. WSW

WELL NO. - MAP CODE - CLASSF*: 70412-04-OX

NAME & ADDRESS OF UNIT OWNER: Unknown, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Abandoned gas station

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 700 ft. WSW

WELL NO. - MAP CODE - CLASSF*: 70412-05-OS

NAME & ADDRESS OF UNIT OWNER: Veach Oil Company, Main Street, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Service station with below ground fuel storage assumed greater than 500 gallons, ISFM #7-023232

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 280 ft. SW

APPENDIX: B3 INVENTORY AND SYNOPSIS OF UNITS Ridgway Well #3 (IEPA #70412)

Classification (CLASSF*) KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = POTENTIAL ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 70412-06-OS

NAME & ADDRESS OF UNIT OWNER: Wills 76, Main and Crawford, Ridgway, IL 62979, 618/272-4621

DESCRIPTION AND COMMENTS: Service station with below ground fuel storage assumed greater than 500 gallons, ISFM #7-014635

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 290 ft. S

WELL NO. - MAP CODE - CLASSF*: 70412-07-PS

NAME & ADDRESS OF UNIT OWNER: Tri-County Fertilizer, Inc., Ridgway, IL 62979, 618/273-3004

DESCRIPTION AND COMMENTS: Above ground storage of fertilizer, below ground fuel storage, ISFM #7-002580

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 980 ft. SSW

WELL NO. - MAP CODE - CLASSF*: 70412-08-OS

NAME & ADDRESS OF UNIT OWNER: FS, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Above ground storage of fertilizer, below ground fuel storage

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1200 ft. SSE

WELL NO. - MAP CODE - CLASSF*: 70412-09

NAME & ADDRESS OF UNIT OWNER: Bunge Corp., Ridgway, IL 62979, 618/272-4791

DESCRIPTION AND COMMENTS: Grain storage, APC #059030AAF

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1450 ft. S

WELL NO. - MAP CODE - CLASSF*: 70412-10

NAME & ADDRESS OF UNIT OWNER: Unknown, Ridgway, IL 62979

DESCRIPTION AND COMMENTS: Above ground bulk fuel storage

PRE OR POST (Y,N): Y

DISTANCE AND DIRECTION: 1730 ft. SSE

APPENDIX C

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES
FACILITY WELLS REPORT

REPORT: RUCR0053
WORK: RUCR0027

FACILITY: 0500300 RIDGWAY

----- OFFICIAL CUSTODIAN -----

ROBERT P RIDER

PRESIDENT - VILLAGE HALL

CRAWFORD ST, BOX 627

RIDGWAY IL 62970

WELL: 70410 WELL 1 ADJ TO N SIDE WTP 10FT N WELL #2 STATUS: ACTIVE RACKUP DEPTH(FT): 85
LATITUDE: N37 47 52.0 LONGITUDE: W088 15 40.0 TWP: 08S RNG: 09E SEC: 30 PLOT: 7D

SUSCEPTIBILITY - LAND BURIAL: A2 SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 0400 ---
ADDITIONS: QUATERNARY SYSTEM

WELL: 70411 WELL 2 ADJ TO WTP 10FT S WELL #1 STATUS: ACTIVE DEPTH(FT): 85
LATITUDE: N37 47 51.5 LONGITUDE: W088 15 40.0 TWP: 08S RNG: 09E SEC: 30 PLOT: 7D

SUSCEPTIBILITY - LAND BURIAL: A2 SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 0400 ---
ADDITIONS: QUATERNARY SYSTEM

WELL: 70412 WELL 3 300YDS N OF WELL 1 STATUS: ACTIVE DEPTH(FT): 101
LATITUDE: N37 47 58.5 LONGITUDE: W088 15 39.0 TWP: 08S RNG: 09E SEC: 30 PLOT: 7E

SUSCEPTIBILITY - LAND BURIAL: A2 SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 0400 ---
ADDITIONS: QUATERNARY SYSTEM

SUSCEPTIBILITY CODES
LAND BURIAL: A2 = THICK, APPARENTLY SAND AND GRAVEL WITHIN 20 FT OF LAND SURFACE.

APPENDIX D

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES
SELECTED SAMPLE EXPANDED REPORT

PAGE: 3
DATE: 01/23/91

REPORT: PWD00048
MODULE: PWD00026

FACILITY: 0590300 PINGWAY

*** CONTINUED ***

00410	ALKALINITY, TOTAL MG/L AS CaCO3	364.000	
00610	NITROGEN, AMMONIA TOTAL MG/L AS N	1.900	
00630	NITRATE & NITRITE TOTAL MG/L AS N	0.100 <	10.000
00720	CYANIDE, TOTAL MG/L AS CN	0.005 <	0.200
00900	HARDNESS, EDTA MG/L AS CaCO3	296.000	
00916	CALCIUM, TOTAL RECOVERABLE MG/L AS Ca ANAL BY ICP	74.000	
00927	MAGNESIUM, TOTAL RECOVERABLE MG/L AS Ca ANAL BY ICP	31.500	
00929	SODIUM, TOTAL RECOVERABLE MG/L AS Na ANAL BY ICP	25.000	
00937	POTASSIUM, TOTAL RECOVERABLE MG/L AS K ANAL BY ICP	1.300	
00940	CHLORIDE, TOTAL MG/L AS CL	5.100	
00945	SULFATE, TOTAL MG/L AS SO4	10.000 <	4.000
00951	FLUORIDE, TOTAL MG/L AS F	0.260	
00956	SILICA, TOTAL MG/L AS SiO2	16.000	
01002	ARSENIC, TOTAL RECOVERABLE UG/L AS AS	55.000	50.000*
01007	BARIUM, TOTAL RECOVERABLE UG/L AS Ba ANAL BY ICP	110.000	1000.000
01012	BERYLLIUM, TOTAL RECOVERABLE UG/L AS Be ANAL BY ICP	0.500 <	
01022	BORON, TOTAL RECOVERABLE UG/L AS B ANAL BY ICP	60.000	
01027	CADMIUM, TOTAL RECOVERABLE UG/L AS Cd ANAL BY ICB	3.000 <	10.000
01034	CHROMIUM, TOTAL RECOVERABLE UG/L AS Cr ANAL BY ICR	5.000 <	50.000
01037	COBALT, TOTAL RECOVERABLE UG/L AS Co ANAL BY ICP	5.000 <	
01042	COPPER, TOTAL RECOVERABLE UG/L AS Cu ANAL BY ICP	45.000	5000.000
01045	IRON, TOTAL RECOVERABLE UG/L AS Fe ANAL BY ICP	4500.000	1000.000*
01051	LEAD, TOTAL RECOVERABLE UG/L AS Pb	21.000	50.000
01055	MANGANESE, TOTAL RECOVERABLE UG/L AS Mn ANAL BY ICP	50.000	150.000
01067	NICKEL, TOTAL RECOVERABLE UG/L AS Ni ANAL BY ICP	18.000	
01077	SILVER, TOTAL RECOVERABLE UG/L AS Ag ANAL BY ICP	5.000 <	50.000
01082	STRONTIUM, TOTAL RECOVERABLE UG/L AS Sr ANAL BY ICP	423.000	
01087	VANADIUM, TOTAL RECOVERABLE UG/L AS V ANAL BY ICP	4.000 <	
01092	ZINC, TOTAL RECOVERABLE UG/L AS Zn ANAL BY ICP	22.000	5000.000
01147	SELENIUM, TOTAL RECOVERABLE UG/L AS Se	1.000 <	10.000
70300	PESIDINE, TOTAL FILTERABLE @180 C, MG/L	390.000	
70304	TOTAL DISSOLVED SOLIDS MG/L BY EC	370.000	
71000	MERCURY, TOTAL UG/L AS Hg	0.050 <	2.000

PUBLIC: Y COMM: Y TYPE WATER: G

STATUS: A

STATUS: A

STATUS: A

SAMPLE NO: 006636900 LOCATION: RIDGEWAY/WEFL 3
SMPL TYPE: RAW COLLECTOR: WADE BORING
SMPL PURP: 5-SPEC70THP COMMENTS: GROUNDWATER PESTICIDE
SMPL PROG: R-GWM PEST PRESRVATNS: 1 GAL WATER
COLL DATE: 07/19/88 DELIVERED BY: M B
LAB RCVD: 07/20/88 RECEIVED BY: D V
LAB COMPL: 07/26/88 LAB SUPERVISOR: JTH
SMPL PERIOD: 07/88 FUND CODE: PM30

ANALYSIS PSLT NO NO DESCRIPTION
ID -----STORY-----

UNITS RESULT DRINK WTR RAW WTR TRIGGER LEVEL

4120000	001	39340	LINDANE UG/L	0.010 <	4.000
4121000	002	39410	HEPTACHLOR UG/L	0.010 <	0.100
4122000	003	39330	ALDRIN UG/L	0.010 <	1.000
4123000	004	39420	HEPTACHLOR EPOXIDE UG/L	0.010 <	0.100

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES
SELECTED SAMPLE EXPANDED REPORT

REPORT: PUGR0648
MODUL: PUGR0026

FACILITY: 0590300 PIRGWAY

PAGE: 4
DATE: 01/23/91

*** CONTINUED ***

412WA00	005	39348	ALPHA CHLOROBANE UG/L
412WA00	006	39810	GAMMA CHLOROBANE UG/L
412WA00	007	39380	DIELDRIN UG/L
412WA00	008	39390	ENDRIN UG/L
412WA00	009	39480	METHOXYCHLOR UG/L
412WA00	010	39327	O,P'-DDE UG/L
412WA00	011	39320	P,P'-DDE UG/L
412WA00	012	39315	O,P'-DDD UG/L
412WA00	013	39310	P,P'-DDD UG/L
412WA00	014	39305	O,P'-DDT UG/L
412WA00	015	39300	P,P'-DDT UG/L
412WA00		39370	TOTAL DDT UG/L
412WA00	001	39516	TOTAL PCB'S UG/L
412WA00	001	39400	TOXAPHENE UG/L
418WC00	001	39032	PENTACHLOROPHENOL
418WH00	001	39730	2,4-D UG/L
418WH00	002	39760	SILVEX UG/L
418WH00	001	46313	PHORATE UG/L
418WH00	002	39570	DIAZINON UG/L
418WH00	003	39357	RONNEL UG/L
418WH00	004	39600	METHYL PARATHION UG/L
418WH00	005	82088	TERBUFOS (COUNTER) UG/L
418WH00	006	81294	DYFOMATE UG/L
418WH00	007	81403	DURSEAR UG/L
418WH00	008	39530	HALATHION UG/L
418WH00	009	39398	ETHION UG/L
418WH00	010	81284	TREFLAN UG/L
418WH00	011	39630	ATRAZINE (AATFEX) UG/L
418WH00	012	77825	ALACHLOR UG/L
418WH00	013	39356	METOLACHLOR (DUAL) UG/L
418WH00	014	81757	CYANAZINE UG/L

SAMPLE NO: B711183 LOCATION: WELL 3
SMPL TYPE: RAW COLLECTOR: W. RORING
SMPL PURP: 5-SPEC/OTHR COMMENTS:
SMPL PRG: 1-GWK INORG ORSPVATNS:

COLL DATE: 07707787 DELIVERED BY:
LAB RCVD: 07714787 RECEIVED BY:
LAB COMPL: LAB SUPERVISOR:
SMPL PERIOD: 07787 FUND CODE: PM30

ANALYSIS ID RSLT NO STORET-----
DESCRIPTION

00410	ALKALINITY, TOTAL MG/L AS CaCO3
00610	NITROGEN, AMMONIA TOTAL MG/L AS N
00630	NITRATE & NITRITE TOTAL MG/L AS N
00665	PHOSPHORUS, TOTAL MG/L AS P
00720	CYANIDE, TOTAL MG/L AS CN
00916	CALCIUM, TOTAL RECOVERABLE MG/L AS Ca ANAL BY ICP
00927	MAGNESIUM, TOTAL RECOVERABLE MG/L AS Ca ANAL BY ICP
00929	SODIUM, TOTAL RECOVERABLE MG/L AS Na ANAL BY ICP
00937	POTASSIUM, TOTAL RECOVERABLE MG/L AS K ANAL BY ICP
00940	CHLORIDE, TOTAL MG/L AS CL

UNITS

RESULT

DRINK WTR

RAW WTR

TRIGGER LEVEL

0.010	<
0.010	<
0.010	<
0.010	<
0.050	<
0.010	<
0.010	<
0.010	<
0.010	<
0.010	<
0.010	<
0.000	<
0.100	<
1.000	<
0.010	<
0.100	<
0.050	<
0.050	<
0.050	<
0.050	<
0.050	<
0.050	<
0.050	<
0.050	<
0.010	<
0.050	<
0.020	<
0.100	<
0.050	<

354.000
2.000
0.100
0.610
0.005
86.000
38.000
8.500
0.850
3.400

*** CONTINUED ***

00945	SULFATE, TOTAL MG/L AS SO4	10.000 <	
00951	FLUORIDE, TOTAL MG/L AS F	0.250	4.000
00956	SILICA, TOTAL MG/L AS SIO2	14.000	
01002	ARSENIC, TOTAL RECOVERABLE UG/L AS AS	59.000	50.000*
01007	BARIUM, TOTAL RECOVERABLE UG/L AS BE ANAL BY ICP	101.000	1000.000
01012	BERYLLIUM, TOTAL RECOVERABLE UG/L AS B ANAL BY ICP	0.500 <	
01022	BORON, TOTAL RECOVERABLE UG/L AS B ANAL BY ICP	50.000 <	
01027	CADMIUM, TOTAL RECOVERABLE UG/L AS CD ANAL BY ICP	3.000 <	10.000
01034	CHROMIUM, TOTAL RECOVERABLE UG/L AS CR ANAL BY ICP	5.000 <	50.000
01037	CORAL, TOTAL RECOVERABLE UG/L AS CO ANAL BY ICP	5.000 <	
01042	COPPER, TOTAL RECOVERABLE UG/L AS CU ANAL BY ICP	5.000 <	5000.000
01045	IRON, TOTAL RECOVERABLE, UG/L AS FE ANAL BY ICP	4921.000	1000.000*
01051	LEAD, TOTAL RECOVERABLE UG/L AS PR	5.000 <	50.000
01055	MANGANESE, TOTAL RECOVERABLE UG/L AS MN ANAL BY ICP	324.000	150.000*
01067	NICKEL, TOTAL RECOVERABLE UG/L AS NI ANAL BY ICP	5.000 <	
01077	SILVER, TOTAL RECOVERABLE UG/L AS AG ANAL BY ICP	3.000 <	50.000
01082	STRONTIUM, TOTAL RECOVERABLE UG/L AS SR ANAL BY ICP	147.000	
01087	VANADIUM, TOTAL RECOVERABLE UG/L AS V ANAL BY ICP	5.000 <	
01092	ZINC, TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP	50.000 <	5000.000
01105	ALUMINUM, TOTAL RECOVERABLE UG/L AS AL ANAL BY ICP	50.000 <	
01147	SELENIUM, TOTAL RECOVERABLE UG/L AS SE	1.000 <	10.000
32730	PHENOLS, TOTAL RECOVERABLE UG/L	5.000 <	
70300	PESIDUE, TOTAL FILTERABLE 0180 C, MG/L	376.000	
71900	MERCURY, TOTAL UG/L AS HG	0.050 <	2.000
72037	PUMPING RATE GPM	450.000	

SAMPLE NO: B004368 LOCATION: WELL #3
SMPL TYPE: RAW COLLECTOR: C DENHISON
SMPL PURP: 1-ROUTINE COMMENTS:
SMPL PROG: 1-GM INORG OBSRVATNS:

COLL DATE: 08/02/82 DELIVERED BY:
LAB RCVD: 10/12/82 RECEIVED BY:
LAB COMPL: LAB SUPERVISOR:
SMPL PERIOD: 08/82 FUND CODE:

ANALYSIS ID	PSLT	UNIT	DESCRIPTION	STREET	UNITS	RESULT	DRINK WTR	RAW WTR	TRIGGER LEVEL
00095			CONDUCTIVITY (EC)-LAR (UMHMS/CM @ 25 C			640.000			
00403			PH LABORATORY UNITS			7.500			
00410			ALKALINITY, TOTAL MG/L AS CaCO3			370.000			
00610			NITROGEN, AMMONIA TOTAL MG/L AS N			2.100			
00630			NITRATE & NITRITE TOTAL MG/L AS N			0.100 <	10.000		
00720			CYANIDE, TOTAL MG/L AS CN			0.005 <	0.200		
00900			HARDNESS, EDTA MG/L AS CaCO3			296.000			
00916			CALCIUM, TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP			69.000			
00927			MAGNESIUM, TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP			32.000			
00929			SODIUM, TOTAL RECOVERABLE MG/L AS NA ANAL BY ICP			32.000			
00937			POTASSIUM, TOTAL RECOVERABLE MG/L AS K ANAL BY ICP			1.300			
00940			CHLORIDE, TOTAL MG/L AS CL			3.300			
00945			SULFATE, TOTAL MG/L AS SO4			10.000 <			
00951			FLUORIDE, TOTAL MG/L AS F			0.230	4.000		
00956			SILICA, TOTAL MG/L AS SIO2			14.000			
01002			ARSENIC, TOTAL RECOVERABLE UG/L AS AS			83.000	50.000*		

926,431	: 37000
876,912-11	: 1,10030

FACILITY: 0590300 PIRGWAY

*** CONTINUED ***

01007	BARIUM, TOTAL RECOVERABLE	UG/L	AS PA	ANAL	RY	ICP
01012	BERYLLIUM, TOTAL RECOVERABLE	UG/L	AS RE	ANAL	RY	ICP
01022	BORON, TOTAL RECOVERABLE	UG/L	AS R	ANAL	BY	ICP
01027	CADMIUM, TOTAL RECOVERABLE	UG/L	AS CD	ANAL	BY	ICB
01034	CHROMIUM, TOTAL RECOVERABLE	UG/L	AS CR	ANAL	BY	ICR
01037	CORAL, TOTAL RECOVERABLE	UG/L	AS CO	ANAL	BY	ICP
01042	COPPER, TOTAL RECOVERABLE	UG/L	AS CU	ANAL	BY	ICP
01045	IRON, TOTAL RECOVERABLE,	UG/L	AS FE	ANAL	RY	ICP
01051	LEAD, TOTAL RECOVERABLE	UG/L	AS PB			
01055	MANGANESE, TOTAL RECOVERABLE	UG/L	AS MN	ANAL	RY	ICP
01067	NICKEL, TOTAL RECOVERABLE	UG/L	AS NI	ANAL	RY	ICP
01077	SILVER, TOTAL RECOVERABLE	UG/L	AS AG	ANAL	RY	ICP
01082	STPONTIUM, TOTAL RECOVERABLE	UG/L	AS SR	ANAL	RY	ICP
01087	VANADIUM, TOTAL RECOVERABLE	UG/L	AS V	ANAL	RY	ICP
01092	ZINC, TOTAL RECOVERABLE	UG/L	AS ZN	ANAL	RY	ICP
01147	SELENIUM, TOTAL RECOVERABLE	UG/L	AS SE			
70300	RESIDUE, TOTAL FILTERABLE	2180 C,	MG/L			
70304	TOTAL DISSOLVED SOLIDS	MG/L	RY	EC		
71900	MERCURY, TOTAL	UG/L	AS HG			

SAMPLE NO: 075743400 LOCATION: RIDGEWAY WEL. #3
 SMPL TYPE: PAW COLLECTOR: W RORING
 SMPL PRGP: 5-SPEC70TUP COMMENTS: VOCS
 SMPL PRPG: V-VOC OBSRVATHS: 2 VOCS

COLL DATE: 07707787 DELIVERED BY: W B
LAB RCVD: 07710787 RECEIVED BY: D V
LAB COMPL: 07716787 LAB SUPERVISDR: JTH
SMPL PERIOD: 07787 FUND CODE: PW30

[illegible]

UNITS	RESULT	DRINK WTR	RAW WTR	LEVEL
UG/L	1.000	<		
UG/L	1.000	<		
UG/L	1.000	<		
UG/L	1.000	<		
UG/L	1.000	<		
UG/L	1.000	<	7.000	
UG/L	1.000	<		
UG/L	1.000	<		
UG/L	1.000	<	5.000	
UG/L	1.000	<	200.000	
UG/L	1.000	<	5.000	
UG/L	1.000	<	5.000	
UG/L	1.000	<		
UG/L	1.000	<		
UG/L	1.000	<		
UG/L	1.000	<	5.000	
UG/L	1.000	<		
UG/L	1.000	<		
UG/L	1.000	<		

APPENDIX E



- ARSENIC -

CHEMICAL INFORMATION SHEET*

WHAT IS ARSENIC?

Arsenic is a shiny, gray, naturally occurring element often referred to as a metal although chemically classified as a metalloid. Arsenic is usually combined with one or more other elements to form inorganic (trivalent or pentavalent) or organic arsenic.

The major current uses of arsenic are in pesticides, cotton drying agents, and wood preservatives. Arsenic has several minor uses, primarily as an additive in metal alloys to increase their hardness and heat resistance; as a growth promoter added to swine and poultry feed; as a bronzing and decolorizing agent in glass production; as an antiparasitic drug; and in the manufacture of electrical semiconductors. Approximately 90 percent of the arsenic produced in the United States in 1979 was used in either the production of pesticides (70%) or wood preservatives (20%). USEPA has proposed cancellation or restriction of these two uses of arsenic.

WHAT IS THE OCCURRENCE OF ARSENIC IN THE ENVIRONMENT?

Arsenic ranks twentieth among the elements in abundance in the earth's crust and is widely distributed in the environment being detected in air, soil, water, plants, animals, and foods. Arsenic enters the environment both as the result of natural forces (volcanic emissions and weathering of arsenic-containing rocks) and human activity. The three largest artificial sources of arsenic emissions to the air and soil are fossil fuel combustion, pesticide use, and copper smelting. In surface waters, the largest artificial sources of arsenic are from urban runoff, pesticide application, and zinc production.

Arsenic is present in all soils with the content in virgin soils ranging from 0.1 to 40 ppm (parts per million). The amount of arsenic in soil depends on inputs from mineral weathering processes, atmospheric deposition, and residue from pesticide application. The natural concentration of arsenic in groundwater is dependent on the arsenic content of the bedrock. Arsenic is found in some bottled mineral waters and in many foods; it occurs naturally in seafoods such as shrimp, lobster, crabs, and clams at levels of 25 to 80 ppm. Arsenic is also introduced into foods by way of pesticides and animal feeds. Arsenic is found in cigarette smoke where it originates from the use of insecticides on tobacco. Concentrations in tobacco have declined during the last twenty years due to decreased use of arsenical pesticides. Plants may accumulate arsenic via root uptake from soil depending upon the plant species, soil arsenic concentration, and soil characteristics.

Arsenic released to the atmosphere is eventually transported to soils or surface waters. Airborne arsenic deposited on soils may then move either into groundwater or surface water, and the arsenic passing into surface waters may settle into sediments. The annual environmental burden of arsenic indicates that approximately 90 percent of arsenic is deposited on land, with the atmosphere accounting for eight percent and the smallest quantity deposited in surface waters.

WHAT ARE THE HEALTH EFFECTS ASSOCIATED WITH ARSENIC EXPOSURE?

The medicinal use of arsenic, although practiced for hundreds of years, apparently reached a peak in the 1800's. Fowler's solution, containing arsenic trioxide, was prescribed for symptomatic relief of acute infections, epilepsy, asthma, and skin

rashes. Thus, many patients received arsenic for periods of months and years and it was in such patients that the consequences of long-term exposure to arsenic were first recognized.

The amount of arsenic capable of causing harmful effects depends on its chemical form. Elemental arsenic has a low toxicity which is attributed to its insolubility in water and body fluids. In general, organic forms like those found in some seafood are less toxic than the inorganic forms (trivalent or pentavalent) which are the principal forms present in air and water. There are several studies on animals which indicate that low levels of arsenic in the diet are beneficial or essential.

Short-term exposure -- Serious health effects may occur as the result of single or short-term inhalation or ingestion of large amounts of arsenic. The symptoms that may follow ingestion of arsenic consist of gastrointestinal disturbances, which can be severe enough to cause cardiovascular effects, shock, and death. Arsenic may also have toxic effects on the liver, blood-forming organs, central nervous system, peripheral nervous system and the cardiovascular system. Ingestion of arsenic may result in skin diseases and darkening of the skin color. Typical signs of arsenic toxicity (gastrointestinal irritation, skin changes, etc.) have been reported in several population's drinking water with 0.4 ppm of arsenic or more. Inhalation of arsenic can cause irritation of the upper respiratory tract (nose, throat, etc.) at air concentrations of around 100 micrograms per cubic meter.

Long-term exposure -- The most characteristic effect of ingestion of inorganic arsenic is skin abnormalities including hyperpigmentation and the appearance of small "corns" on the palms, soles, and trunk. While these skin changes are not considered significant health problems themselves, a small number of these may progress to skin cancer. Arsenic ingestion has also been reported to increase the risk of cancer in the liver, bladder, kidney, and lungs. The relationship of ingestion of arsenic with skin cancer and inhalation of arsenic-containing particulates with lung cancer establishes arsenic as a human carcinogen. However, in contrast to most other human carcinogens, it has been difficult to confirm in experimental animals.

Injections of a particular arsenic compound into pregnant animals have caused specific birth defects in hamsters, rats, and mice. At the present time there is no evidence of arsenic-related birth defects in humans. However, animals and humans who have been exposed to sodium arsenite have shown chromosomal defects (gene damage).

HOW IS ARSENIC REGULATED?

There are a number of regulations controlling arsenic exposure to workers, consumers, and the environment. Threshold Limit Values (TLVs) adopted by the American Conference of Governmental Industrial Hygienists refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all healthy workers may be repeatedly exposed day after day without adverse effects. The TLV for arsenic is 0.2 milligrams per cubic meter as an average eight hour exposure limit for a 5-day workweek. The USEPA, under the Clean Air Act, lists arsenic as a hazardous air pollutant.

A Maximum Contaminant Level (MCL) of 50 parts per billion (ppb) of arsenic in drinking water has been established under the Safe Drinking Water Act. In addition, the ambient water quality criterion for arsenic under the Clean Water Act is 2.2×10^{-3} ug/l (ppb) based on the risk to human health from the consumption of contaminated water and fish.

CAS:jas/1466j,1-2/sp

*Note: This information sheet is a summary of readily available data regarding the general nature and effects of this chemical. The reader is encouraged to consult other sources or an appropriate professional if a more detailed explanation for specific concerns is desired.

APPENDIX F



Illinois
Environmental
Protection Agency

Office of Chemical Safety
2200 Churchill Road, P.O. Box 19276
Springfield, Illinois 62794-9276

IEPA/ENV/87-001-6

April, 1987

- GLOSSARY - CHEMICAL INFORMATION SHEET

absorption - the movement of a chemical into the bloodstream or other body fluid or tissue after its entrance into the body through the skin, lungs, or gastrointestinal tract.

acute - sharp, severe; having a relatively rapid onset, often with severe symptoms and a relatively short course. In toxicology refers to a single large exposure to a chemical (acute exposure), or to the development of symptoms of poisoning soon after a single exposure to a substance (acute toxicity).

ACGIH - the American Conference of Governmental Industrial Hygienists. It recommends upper limits (see TLV) for exposure to workplace chemicals.

bioconcentration - the process in and by which chemical substances are accumulated in living organisms above their concentration in the environment. For example, a chemical is spilled into a river or lake and is ingested and stored by small organisms like plankton; small fish eat the plankton; and large fish eat the smaller fish. As this process occurs, the chemical becomes thousands of times more concentrated in the tissues of the large fish than in the plankton or the water. Usually occurs with fat-soluble compounds rather than water-soluble compounds.

biodegradation - the breaking down of an organic substance, resulting from the complex action of living organisms.

cancer - a group of diseases characterized by malignant, uncontrolled growth of cells of body tissue (tumors).

carcinogen - a term applied generally to any substance that is capable of producing cancer or increasing the growth and spreading of tumors in an organism.

chronic - occurring over a period of time. In toxicology refers to repeated exposure (chronic exposure) to a chemical for a relatively long period of time or persistence of symptoms or disease over a long period of time (chronic toxicity).

epidemiology - the study of the incidence, distribution, and control of disease in human populations.

leaching - downward movement of a material in solution through soil.

Maximum Contaminant Level (MCL) - the maximum permissible level of a contaminant that is allowed in a public water supply system.

metabolism - the changes that a chemical undergoes in an organism. The products of metabolism may be more or less active in the organism than the original (parent) compound. In animals, many of these products find their way to body excretions, for example through lung exhalation, urine, or feces. Tracing the pathways of metabolism is important to shed light on possible relationships between chemicals and particular health effects.

mg/m³ - means milligrams of a chemical in a cubic meter of air. It is a density measurement expressing the amount of air pollutant in a given volume of air.

mutagen - a substance that causes a change in the genetic material in a body cell, called a mutation. Mutations may lead to birth defects, miscarriages, or cancer, or they may have no obvious effect, depending on what genetic material is damaged and on where the damage occurs.

persistent - existing for a long time in the environment or the body. For chemicals, this means not easily broken down; for the effects of chemicals, this means the effect remains or recurs long after exposure to the chemical.

pesticide - a general term used to describe a product designed to kill or control unwanted organisms; for example, herbicides are designed to control unwanted plants, insecticides are designed to control unwanted insects, fungicides are designed to control fungus and mold, etc.

ppb - an expression describing a small concentration, equal to an amount of one substance in a billion parts of another material; for example, one drop of alcohol in 16,000 gallons of water.

ppm - an expression describing a small concentration, equal to an amount of one substance in a million parts of another material; for example, one drop of alcohol in 16 gallons of water.

solvent - a liquid substance capable of dissolving or dispersing one or more other substances.

teratogen - a substance that causes stillbirths, birth defects, or malformations by affecting the growing fetus.

TLV - is the Threshold Limit Value for air. The TLV is a workplace exposure limit recommended by ACGIH and represents conditions under which it is believed that nearly all workers may be repeatedly exposed to a substance day after day without adverse effect.

toxicology - the study of the adverse effects of chemicals on living organisms.

volatile - readily vaporizable at a relatively low temperature.

CS:ba/sp2116g/1-2

APPENDIX G

HAZARD REVIEW WORKSHEET

1. Unique I.D. Number 7 0 4 1 1 - 0 7 - P S , Distance and Direction from the Wellhead: 220 feet southwest
2. Nature of Business: Tri-County Fertilizer
3. DLPC Permit Number(s) and Description (e.g., RCRA, Generic, Solid Waste, UIC, etc.): None
4. DAPC Permit Number(s) and Description: None
5. DWPC Permit Numbers and Description (e.g., NPDES, Industrial Pre-Treatment, Sewer Plans, etc.): None
6. ERU Incidents and Description: None
7. ERU 313 Reports and Description: None
8. ESDA 302/303 Reports and Description: Emergency plan on file with county officials
9. ESDA 311/312 Reports and Description:
10. PWS compliance monitoring conducted and describe the results (e.g., VOC/VOA sample detects, etc.):

None

11. ISFM list the underground storage tanks registered, provide the owner name and address:

Owner Name

Address

Tri-County Fertilizer
James Reeder

Baltimore and South Street,
Ridgway

12. Is the site sewered or non-sewered? Sewered

If the site is not sewered, describe:

13. Has on-site past or present landfilling, land treating, or surface impoundment of waste, other than landscape waste or construction and demolition debris occurred?

[] Yes. If yes, describe:

[X] No.

14. Are there currently any on-site piles of special or hazardous waste?

☐ Yes. If yes, describe:

☒ No.

15. Are on-site piles of waste (other than special or hazardous wastes) managed according to Agency guidelines?

☐ Yes.

☒ No. If no, describe:

16. Are there currently any underground storage tanks present on-site, and will any underground tanks be installed in the future?

☒ Yes. If yes, describe: Two tanks, 14 years old - one 1,000 gallon gasoline and one 500 gallon diesel

☐ No.

17(a). Has any situation(s) occurred at this site which resulted in a "release" of any hazardous substance or petroleum?

☐ Yes (continue to next question)

☒ No (stop here)

(b). Have any hazardous substances or petroleum, which were released, come into contact with the ground surface at this site? (Note--do not automatically exclude paved or otherwise covered areas that may still have allowed chemical substances to penetrate into the ground.)

☐ Yes (continue to next question)

☐ No (stop here)

(c). Have any of the following actions/events been associated with the release(s) referred to in question 17(b)?

☐ Hiring of a cleanup contractor to remove obviously contaminated materials including subsoils

☐ Replacement or major repair of damaged facilities

☐ Assignment of in-house maintenance staff to remove obviously contaminated materials including subsoils

☐ Designation, by IEPA or the ESDA, of a release as "significant" under the Illinois Chemical Safety Act

☐ Reordering or other replenishment of inventory due to the amount of substance lost

- ☐ Temporary or more long-term monitoring of groundwater at or near the site
- ☐ Stop usage of an on-site or nearby water well because of offensive characteristics of the water
- ☐ Coping with fumes from subsurface storm drains or inside basements
- ☐ Signs of substances leaching out of the ground along the base of slopes or at other low points on or adjacent to the site

(d). The on-site release(s) may have been of sufficient magnitude to contaminate groundwaters. Summarize the problem.

18. Are there more than 100 gallons of either pesticides or organic solvents, or 10,000 gallons of any hazardous substance, or 30,000 gallons of petroleum present at any time?

☒ Yes. If yes, describe: Assumed greater than 100 gallons of above ground pesticides storage

☐ No.

19. Do any of the regulated entities have groundwater monitoring systems, and have any exceeded compliance requirements?

☐ Yes. If yes, describe:

☒ No.

20. After considering all of the above criteria does this site potentially pose a hazard to groundwater?

☒ Yes. If yes, describe: A spill could pose a potential hazard due to its close proximity to the well

☐ No.

WB:rlc/310q,sp

HAZARD REVIEW WORKSHEET

1. Unique I.D. Number 7 0 4 1 0 - 0 7 - P S , Distance and Direction from the Wellhead: 230 feet southwest
2. Nature of Business: Tri-County Fertilizer
3. DLPC Permit Number(s) and Description (e.g., RCRA, Generic, Solid Waste, UIC, etc.): None
4. DAPC Permit Number(s) and Description: None
5. DWPC Permit Numbers and Description (e.g., NPDES, Industrial Pre-Treatment, Sewer Plans, etc.): None
6. ERU Incidents and Description: None
7. ERU 313 Reports and Description: None
8. ESDA 302/303 Reports and Description: Emergency plan on file with county officials
9. ESDA 311/312 Reports and Description:
10. PWS compliance monitoring conducted and describe the results (e.g., VOC/VOA sample detects, etc.):

None
11. ISFM list the underground storage tanks registered, provide the owner name and address:

Owner Name

Address

Tri-County Fertilizer,
James Reeder

Baltimore and South Street,
Ridgway, IL

12. Is the site sewered or non-sewered? Sewered

If the site is not sewered, describe:

13. Has on-site past or present landfilling, land treating, or surface impoundment of waste, other than landscape waste or construction and demolition debris occurred?

[] Yes. If yes, describe:

[X] No.

14. Are there currently any on-site piles of special or hazardous waste?

☐ Yes. If yes, describe:

☒ No.

15. Are on-site piles of waste (other than special or hazardous wastes) managed according to Agency guidelines?

☐ Yes.

☒ No. If no, describe:

16. Are there currently any underground storage tanks present on-site, and will any underground tanks be installed in the future?

☒ Yes. If yes, describe: Two tanks, 14 years old - one 1,000 gallon gasoline and one 500 gallon diesel

☐ No.

17(a). Has any situation(s) occurred at this site which resulted in a "release" of any hazardous substance or petroleum?

☐ Yes (continue to next question)

☒ No (stop here)

(b). Have any hazardous substances or petroleum, which were released, come into contact with the ground surface at this site? (Note--do not automatically exclude paved or otherwise covered areas that may still have allowed chemical substances to penetrate into the ground.)

☐ Yes (continue to next question)

☐ No (stop here)

(c). Have any of the following actions/events been associated with the release(s) referred to in question 17(b)?

☐ Hiring of a cleanup contractor to remove obviously contaminated materials including subsoils

☐ Replacement or major repair of damaged facilities

☐ Assignment of in-house maintenance staff to remove obviously contaminated materials including subsoils

☐ Designation, by IEPA or the ESDA, of a release as "significant" under the Illinois Chemical Safety Act

☐ Reordering or other replenishment of inventory due to the amount of substance lost

- ☐ Temporary or more long-term monitoring of groundwater at or near the site
- ☐ Stop usage of an on-site or nearby water well because of offensive characteristics of the water
- ☐ Coping with fumes from subsurface storm drains or inside basements
- ☐ Signs of substances leaching out of the ground along the base of slopes or at other low points on or adjacent to the site

(d). The on-site release(s) may have been of sufficient magnitude to contaminate groundwaters. Summarize the problem.

18. Are there more than 100 gallons of either pesticides or organic solvents, or 10,000 gallons of any hazardous substance, or 30,000 gallons of petroleum present at any time?

☒ Yes. If yes, describe: Assumed greater than 100 gallons of above ground pesticides storage

☐ No.

19. Do any of the regulated entities have groundwater monitoring systems, and have any exceeded compliance requirements?

☐ Yes. If yes, describe:

☒ No.

20. After considering all of the above criteria does this site potentially pose a hazard to groundwater?

☒ Yes. If yes, describe: A spill could pose a potential hazard due to its close proximity to the well

☐ No.

WB:rlc/310q,sp

HAZARD REVIEW WORKSHEET

1. Unique I.D. Number 7 Q 4 1 2 - Q 6 - P S , Distance and Direction from the Wellhead: 230 feet southwest
2. Nature of Business: Wills 76 service station
3. DLPC Permit Number(s) and Description (e.g., RCRA, Generic, Solid Waste, UIC, etc.): None
4. DAPC Permit Number(s) and Description: None
5. DWPC Permit Numbers and Description (e.g., NPDES, Industrial Pre-Treatment, Sewer Plans, etc.): None
6. ERU Incidents and Description: None
7. ERU 313 Reports and Description: None
8. ESDA 302/303 Reports and Description: None
9. ESDA 311/312 Reports and Description: None
10. PWS compliance monitoring conducted and describe the results (e.g., VOC/VOA sample detects, etc.):
None
11. ISFM list the underground storage tanks registered, provide the owner name and address:

Owner Name

Address

Wills 76 Station,
John Will

Main and Crawford, Ridgway

12. Is the site sewered or non-sewered? Sewered

If the site is not sewered, describe:

13. Has on-site past or present landfilling, land treating, or surface impoundment of waste, other than landscape waste or construction and demolition debris occurred?

[] Yes. If yes, describe:

[X] No.

14. Are there currently any on-site piles of special or hazardous waste?

☐ Yes. If yes, describe:

☒ No.

15. Are on-site piles of waste (other than special or hazardous wastes) managed according to Agency guidelines?

☐ Yes.

☒ No. If no, describe:

16. Are there currently any underground storage tanks present on-site, and will any underground tanks be installed in the future?

☒ Yes. If yes, describe: Three tanks - One 2,000 gallon gasoline and two 560 gallon gasoline

☐ No.

17(a). Has any situation(s) occurred at this site which resulted in a "release" of any hazardous substance or petroleum?

☐ Yes (continue to next question)

☒ No (stop here)

(b). Have any hazardous substances or petroleum, which were released, come into contact with the ground surface at this site? (Note--do not automatically exclude paved or otherwise covered areas that may still have allowed chemical substances to penetrate into the ground.)

☐ Yes (continue to next question)

☐ No (stop here)

(c). Have any of the following actions/events been associated with the release(s) referred to in question 17(b)?

☐ Hiring of a cleanup contractor to remove obviously contaminated materials including subsoils

☐ Replacement or major repair of damaged facilities

☐ Assignment of in-house maintenance staff to remove obviously contaminated materials including subsoils

☐ Designation, by IEPA or the ESDA, of a release as "significant" under the Illinois Chemical Safety Act

☐ Reordering or other replenishment of inventory due to the amount of substance lost

- ☐ Temporary or more long-term monitoring of groundwater at or near the site
- ☐ Stop usage of an on-site or nearby water well because of offensive characteristics of the water
- ☐ Coping with fumes from subsurface storm drains or inside basements
- ☐ Signs of substances leaching out of the ground along the base of slopes or at other low points on or adjacent to the site

(d). The on-site release(s) may have been of sufficient magnitude to contaminate groundwaters. Summarize the problem.

18. Are there more than 100 gallons of either pesticides or organic solvents, or 10,000 gallons of any hazardous substance, or 30,000 gallons of petroleum present at any time?

☐ Yes. If yes, describe:

☒ No.

19. Do any of the regulated entities have groundwater monitoring systems, and have any exceeded compliance requirements?

☐ Yes. If yes, describe:

☒ No.

20. After considering all of the above criteria does this site potentially pose a hazard to groundwater?

☒ Yes. If yes, describe: Any below ground tank in close proximity to a water well is a potential hazard

☐ No.

WB:rlc/310q,sp

HAZARD REVIEW WORKSHEET

1. Unique I.D. Number 7 0 4 1 2 - 0 65- P S , Distance and Direction from the Wellhead: 230 feet southwest
2. Nature of Business: Veach Oil Company
3. DLPC Permit Number(s) and Description (e.g., RCRA, Generic, Solid Waste, UIC, etc.): None
4. DAPC Permit Number(s) and Description: None
5. DWPC Permit Numbers and Description (e.g., NPDES, Industrial Pre-Treatment, Sewer Plans, etc.): None
6. ERU Incidents and Description: None
7. ERU 313 Reports and Description: None
8. ESDA 302/303 Reports and Description: None
9. ESDA 311/312 Reports and Description: None
10. PWS compliance monitoring conducted and describe the results (e.g., VOC/VOA sample detects, etc.):

None

11. ISFM list the underground storage tanks registered, provide the owner name and address:

Owner Name

Address

Veach EZ Stop,
Jessie Veach

Main Street, Ridgway

12. Is the site sewered or non-sewered? Sewered

If the site is not sewered, describe:

13. Has on-site past or present landfilling, land treating, or surface impoundment of waste, other than landscape waste or construction and demolition debris occurred?

[] Yes. If yes, describe:

[X] No.

14. Are there currently any on-site piles of special or hazardous waste?

☐ Yes. If yes, describe:

☒ No.

15. Are on-site piles of waste (other than special or hazardous wastes) managed according to Agency guidelines?

☐ Yes.

☒ No. If no, describe:

16. Are there currently any underground storage tanks present on-site, and will any underground tanks be installed in the future?

☒ Yes. If yes, describe: Two tanks - 10,000 gallon gasoline

☐ No.

17(a). Has any situation(s) occurred at this site which resulted in a "release" of any hazardous substance or petroleum?

☐ Yes (continue to next question)

☒ No (stop here)

(b). Have any hazardous substances or petroleum, which were released, come into contact with the ground surface at this site? (Note--do not automatically exclude paved or otherwise covered areas that may still have allowed chemical substances to penetrate into the ground.)

☐ Yes (continue to next question)

☐ No (stop here)

(c). Have any of the following actions/events been associated with the release(s) referred to in question 17(b)?

☐ Hiring of a cleanup contractor to remove obviously contaminated materials including subsoils

☐ Replacement or major repair of damaged facilities

☐ Assignment of in-house maintenance staff to remove obviously contaminated materials including subsoils

☐ Designation, by IEPA or the ESDA, of a release as "significant" under the Illinois Chemical Safety Act

☐ Reordering or other replenishment of inventory due to the amount of substance lost

- ☐ Temporary or more long-term monitoring of groundwater at or near the site
- ☐ Stop usage of an on-site or nearby water well because of offensive characteristics of the water
- ☐ Coping with fumes from subsurface storm drains or inside basements
- ☐ Signs of substances leaching out of the ground along the base of slopes or at other low points on or adjacent to the site

(d). The on-site release(s) may have been of sufficient magnitude to contaminate groundwaters. Summarize the problem.

18. Are there more than 100 gallons of either pesticides or organic solvents, or 10,000 gallons of any hazardous substance, or 30,000 gallons of petroleum present at any time?

☐ Yes. If yes, describe:

☒ No.

19. Do any of the regulated entities have groundwater monitoring systems, and have any exceeded compliance requirements?

☐ Yes. If yes, describe:

☒ No.

20. After considering all of the above criteria does this site potentially pose a hazard to groundwater?

☒ Yes. If yes, describe: Any below ground tank in close proximity to a water well is a potential hazard

☐ No.

WB:rlc/310q,sp

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